

PREXOS

HIGH EFFICIENCY BI-FACIAL GLASS TO TRANSPARENT BACKSHEET PV MODULES

420-450W

MAXIMUM EFFICIENCY %

20.82

POSITIVE POWER TOLERANCE WP

0~+4.99

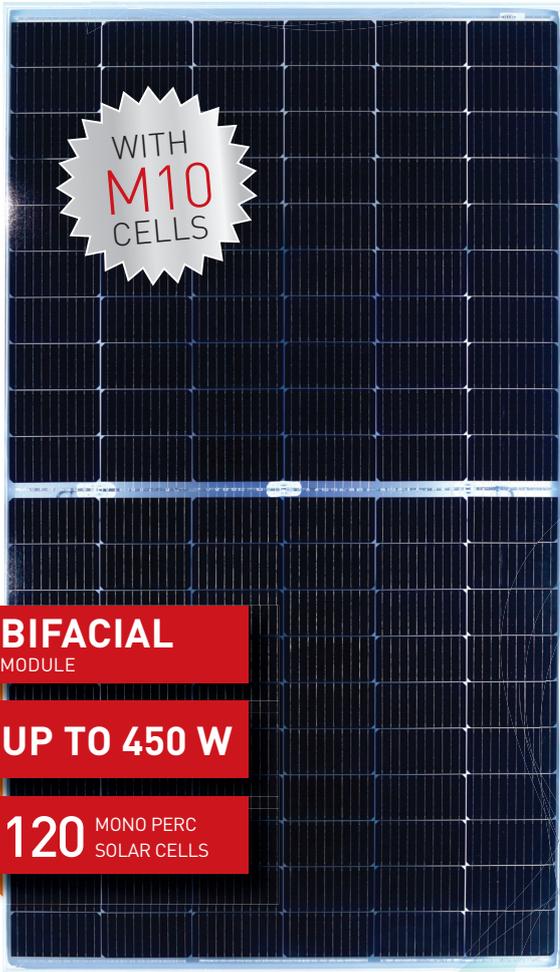
CELLS

M10 120

MODULE TECHNOLOGY

HALF CUT & MICRO GAP DESIGN

WITH IMPROVED SHADE TOLERANCE



ANTI-STAINING PERFORMANCE of the backsheet ensures reduced **CLEANING FREQUENCY OF REAR SIDE** of the module, leading to reduction in water usage



CYLINDRICAL TABBING WIRE is used to reduce the shadow on cell active area



UP TO 15% POWER GAIN from ground facing side depending upon the albedo of the ground surface



Implementation of bypass diodes in split JB series-parallel connections enable the module to perform in **PARTIAL SHADOW CONDITIONS** with respect to full-cell module



HIGHER NUMBER OF BUSBAR makes the PV modules less prone to loss in efficiency and increase tolerance to micro cracks



FIELD RELIABILITY is improved due to multiple contact points on the cell which lowers the cell stress during module fabrication



Due to **LIGHT WEIGHT** hassle-free installation of bifacial module is done with increased robustness also in east west direction



LCOE IS CUT BACK by using M10 size solar cell with adding more power output than lower size cell module



LOWER INTERNAL RESISTANCE boosts module power helping to achieve minimal power loss with respect to previous variant modules



FRAME

SILVER

SUPERSTRATE

GLASS

SUBSTRATE

BACKSHEET
TRANSPARENT

APPLICATIONS

- On-grid large scale utility systems
- On-grid rooftop industrial and commercial systems
- Rooftop residential systems

THIS DATASHEET IS APPLICABLE FOR: PREXOS VSMDHT.60.AAA.05 (AAA=420-450)

Electrical Data^{1,2} All data refers to STC (AM 1.5, 1000 W/m², 25°C)

	420	425	430	435	440	445	450
Peak Power P _{max} (Wp)	420	425	430	435	440	445	450
Maximum Voltage V _{mpp} (V)	34.3	34.5	34.7	34.8	34.9	35	35.1
Maximum Current I _{mp} (A)	12.25	12.32	12.41	12.52	12.62	12.72	12.83
Open Circuit Voltage V _{oc} (V)	40.6	40.8	41	41.1	41.2	41.3	41.4
Short Circuit Current I _{sc} (A)	12.9	12.99	13.11	13.21	13.31	13.41	13.51
Module Efficiency η(%)	19.43	19.66	19.89	20.13	20.36	20.59	20.82

1) STC: 1000 W/m² irradiance, 25°C cell temperature, AM1.5g spectrum according to EN 60904-3. 2) Power measurement uncertainty is within +/- 2%.

Electrical Parameters at NOCT³

Power (W)	313.3	317	320	324	327	331	334
V@P _{max} (V)	31.7	31.8	31.9	32	32.1	32.2	32.3
I@P _{max} (A)	9.88	9.96	10.04	10.11	10.19	10.27	10.35
V _{oc} (V)	37.8	38	38.1	38.2	38.3	38.3	38.4
I _{sc} (A)	10.42	10.52	10.62	10.7	10.78	10.86	10.94

3) NOCT irradiance 800 W/m², ambient temperature 20°C, wind speed 1 m/sec

Equivalent Bifacial Output

Bifacial Gain	Overall Power output (W)						
	5%	441	446	452	457	462	467
10%	462	468	473	479	484	490	495
15%	483	489	495	500	506	512	518

Temperature Coefficients (Tc) permissible operating conditions

Tc of Open Circuit Voltage (β)	-0.27%/°C
Tc of Short Circuit Current (α)	0.050%/°C
Tc of Power (γ)	-0.35%/°C
Maximum System Voltage	1500V
NOCT	45°C ± 2°C
Temperature Range	-40°C to + 85°C

Mechanical Data

Length × Width × Height	1906 × 1134 × 35mm (75.04 × 44.65 × 1.38 inches)
Weight	24 Kg (52.91 lbs)
Junction Box	IP68, Split Junction Box with individual bypass diodes
Cable & Connectors [#]	200 mm (+ve terminal) & 300mm (-ve terminal) length cables, MC4 Compatible/MC4 Connectors
Application Class	Class A (Safety class II)
Superstrate ^{##}	3.2 mm (0.125 inches) high transmission low iron tempered glass, AR coated
Cells	60 Mono PERC (120 half-cells) P-Type Bifacial solar cells
Back Sheet	High Transmittance Composite film with Clear Tedlar [®] from Dupont [®]
Frame	Anodized aluminium frame with twin wall profile
Mechanical Load Test	5400 Pa (Snow load), 2400 Pa (Wind load)
Maximum Series Fuse Rating	25 A

Warranty and Certifications

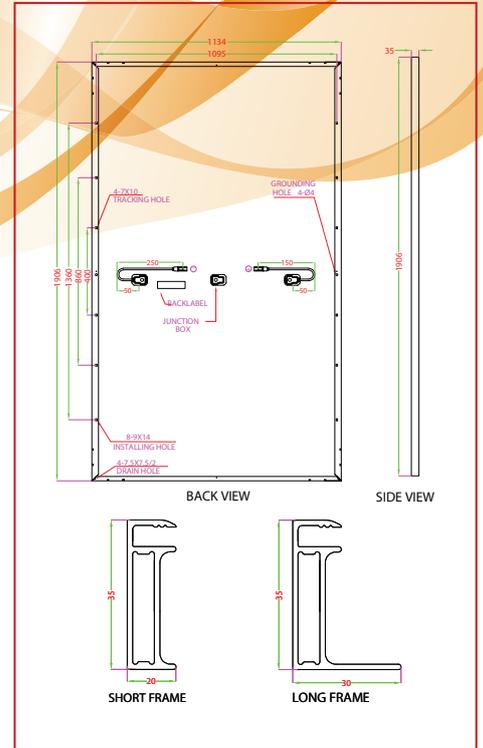
Product Warranty ^{**}	12 years
Performance Warranty ^{**}	Linear Power Warranty for 27 years with 2% for 1st year degradation and 0.55% from year 2 to year 27
Approvals and Certificates [^]	IEC 61215 : 2016, IEC 61730 : 2016, IEC 61701, IEC 62716, IEC 60068-2-68, IEC 62804, CE, GEC (California), UL 61215, UL 61730, CAN-CSA

CAUTION: READ SAFETY AND INSTALLATION MANUAL BEFORE USING THE PRODUCT.

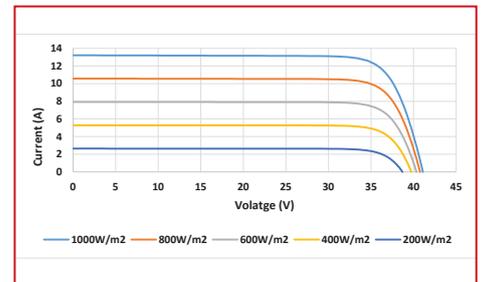
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Dimensions in mm

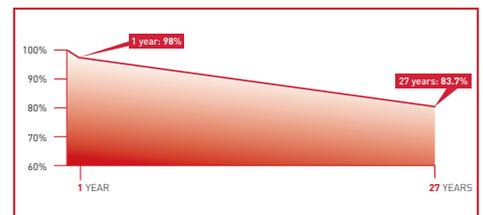


Typical I-V Curves⁴



4) Average relative efficiency reduction of 5% at 200 W/m² according to EN 60904-1.

Performance Warranty



Packaging Information

Quantity /Pallet	31
Pallets/Container (40'HC)	24
Quantity/Container (40'HC)	744

^{*} All (*) certifications under progress. ^{**} Refer to Vikram Solar's warranty document for terms and conditions. ¹ 400mm (15.75 inches), 1000mm (39.37 inches), 1200mm (47.24 inches) cable lengths are also available. [†] Anti-glare Glass is also available